

POSTER PRESENTATION

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Do Roux-en-Y gastric bypass patients meet the dietary guidelines?

Ina Gesquiere^{1*}, Kelly Van Meerbeeck², Veerle Foulon¹, Patrick Augustijns¹, Matthias Lannoo³, Ann Meulemans⁴, Bart Van der Schueren⁴, Christophe Matthys⁴

From Genes and nutrition, is personalised nutrition the next realistic step?
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Background

The prevalence of obesity has increased to epidemic proportions and, as a result, the number of bariatric surgeries has increased worldwide. To date, bariatric surgery remains the sole medical intervention that achieves considerable and sustained weight loss. As both obesity and bariatric surgery are associated with nutritional

deficiencies, the aim of this study was to evaluate the dietary intake of macro- and micronutrients in patients before and after Roux-en-Y gastric bypass (RYGB).

Methods

A prospective observational study was performed at University Hospitals Leuven, Belgium. Patients com-

Table 1 Intake of macronutrients at different time-points, shown as mean±SD.

| n=22 | Intake pre-RYGB | Intake 1 month post-RYGB | Intake 3 months post-RYGB | Significance |
|--------------------------|-----------------|--------------------------|---------------------------|--------------|
| Carbohydrates (g) | 245.2±72.4 | 81.8±39.1 | 110.9±51.42 | 1,2 |
| Proteins (g) | 87.3±23.8 | 37.2±16.6 | 48.0±14.4 | 1,2,3 |
| Fat (g) | 92.2±40.4 | 20.5±12.6 | 36.3±16.2 | 1,2,3 |

1 p<0.01:pre-op vs post-op 1 month; 2 p<0.01:pre-op vs post-op 3 months; 3 p<0.01:post-op 1 month vs post-op 3 months

Table 2 Intake of micronutrients at different time-points, shown as mean±SD.

| | Intake pre-RYGB (32 patients) | Intake 1 month post-RYGB (28 patients) | Intake 3 months post-RYGB (26 patients) | Significance |
|-------------------------|-------------------------------|--|---|--------------|
| Ca (mg) | 970.4±519.6 | 638.4±287.9 | 695.1±352.3 | |
| Fe (mg) | 12.6±3.7 | 5±2.9 | 6.0±1.8 | 1,2 |
| Cu (mg) | 2.1±1.5 | 1.0±0.9 | 4.9±18.6 | |
| Zn (mg) | 46.6±92.1 | 10.2±21.1 | 6.6±3.7 | |
| Vitamin A (µg) | 962.8±405.2 | 721.5±490.0 | 787.5±716.6 | |
| Vitamin B1 (mg) | 1.7±0.7 | 0.6±0.3 | 0.8±0.3 | 1,2 |
| Vitamin B12 (µg) | 5.4±2.5 | 2.3±1.5 | 3.3±1.8 | 1,2 |
| Vitamin C (mg) | 138.9±83.8 | 70.3±56.7 | 85.1±52.2 | 1,2 |
| Vitamin D (µg) | 8.4±5.1 | 5.2±3.3 | 4.2±3.2 | |

1 p<0.01:pre-op vs post-op 1 month; 2 p<0.01:pre-op vs post-op 3 months; 3 p<0.01:post-op 1 month vs post-op 3 months

* Correspondence: ina.gesquiere@pharm.kuleuven.be

¹Department of Pharmaceutical and Pharmacological Sciences, KU Leuven, Leuven, Belgium

Full list of author information is available at the end of the article

pleted a dietary record of two non-consecutive days before RYGB and 1 and 3 months after RYGB. Intake of macronutrients and micronutrients was calculated for the different time-points. Paired sample t-tests were performed to analyse differences between time-points.

Results

Conclusions

The intake of macro- and micronutrients is markedly decreased one month after RYGB. At three months post-surgery, the intake of macronutrient increases, but the micronutrient intake remains identical at a worryingly low level. Our data clearly suggest that nutritional guidance is essential following bariatric surgery.

Trial registration

Clinicaltrials.gov #NCT01571180.

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Authors' details

¹Department of Pharmaceutical and Pharmacological Sciences, KU Leuven, Leuven, Belgium. ²Department of Health and Technology, Leuven University College, Leuven, Belgium. ³Department of Pathology Abdominal Surgery, University Hospitals Leuven, Leuven, Belgium. ⁴Clinical and Experimental Endocrinology, KU Leuven/University Hospitals Leuven, Leuven, Belgium.

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